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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,218

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EXAMINER

CULLEN, SEAN P

ART UNIT

PAPER NUMBER

1725

NOTIFICATION DATE

DELIVERY MODE

07/22/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/584,218	Applicant(s) MIYACHI ET AL.	
	Examiner Sean P. Cullen, Ph.D.	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37 and 41-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37 and 41-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/07/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. **Claims 37 and 41-48** are pending.
2. **Claims 1-36 and 38-40** are canceled.

Claim Rejections - 35 USC § 112

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. **Claim 46** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46 recites the limitation "the anode activator" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. It is unclear which part of the anode is formed by mechanical processing.

5. Applicants' amendment(s) have overcome the rejection(s) of **claim 37** under 35 U.S.C. § 112, second paragraph.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. **Claims 37, 41, 42, 44-46 and 48** are rejected under 35 U.S.C. 102(b) as being anticipated by Yasunami (U.S. 6,371,995 B1).

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Regarding **claim 37**, Yasunami discloses an anode material (see negative electrode material, abstract) for an anode (2) in a non-aqueous electrolyte secondary battery (Fig. 1) having at least the anode (2), a cathode (1) and a lithium-ion conducting non-aqueous electrolyte (see nonaqueous electrolytic solution, abstract), comprising:

- particulate composite (see negative electrode material, C7/L44-47) which comprises
 - an Si oxide (see SiO, C7/L65-C8/L3) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see dopants, C10/L52-59).

Regarding **claim 41**, Yasunami discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when the Si oxide is expressed in SiO_z , $0.8 \leq z \leq 2$ (see SiO, C7/L65-C8/L3).

Regarding **claim 42**, Yasunami discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- further comprising lithium metal (see lithium, C7/L65-C8/L3).

Regarding **claim 44**, Yasunami discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- partially or wholly having an amorphous structure (see amorphous, C8/L4-17).

Regarding **claim 45**, Yasunami discloses an anode (2) for a secondary battery (Fig. 1), comprising:

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- an activator layer (see negative electrode sheet, C4/L31-47) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 1) on at least one side of an anode collector (see current collector, C7/L19-29),
- wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C7/L44-47) which comprises
 - an Si oxide (see SiO, C7/L65-C8/L3) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see dopants, C10/L52-59).

Regarding **claim 46**, Yasunami discloses all claim limitations set forth above and further discloses an anode for a secondary battery:

- wherein the anode activator (see negative electrode sheet, C4/L31-47) is formed by mechanical processing (C7/L19-29).

Regarding **claim 48**, Yasunami discloses a non-aqueous electrolytic-solution secondary battery (Fig. 1) comprising:

- an anode (2) comprising:
 - an activator layer (see negative electrode sheet, C4/L31-47) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 1) on at least one side of an anode collector (see current collector, C7/L19-29),

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- wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C7/L44-47) which comprises
 - an Si oxide (see SiO, C7/L65-C8/L3) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see dopants, C10/L52-59).

8. **Claims 37, 41, 42, 44-46 and 48** are rejected under 35 U.S.C. 102(b) as being anticipated by Tomiyama et al. (U.S. 6,053,953 B1).

Regarding **claim 37**, Tomiyama et al. discloses an anode material (see negative electrode material, abstract) for an anode (2) in a non-aqueous electrolyte secondary battery (Fig. 1) having at least the anode (2), a cathode (1) and a lithium-ion conducting non-aqueous electrolyte (see nonaqueous electrolyte, abstract), comprising:

- particulate composite (see negative electrode material, C9/L1-14) which comprises
 - an Si oxide (see SiO, C9/L43-49) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see dopants, C13/L40-46).

Regarding **claim 41**, Tomiyama et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

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- wherein when the Si oxide is expressed in SiO_z , $0.8 \leq z \leq 2$ (see SiO, C9/L43-49).

Regarding **claim 42**, Tomiyama et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- further comprising lithium metal (see lithium, C9/L43-49).

Regarding **claim 44**, Tomiyama et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- partially or wholly having an amorphous structure (see amorphous, C9/L50-64).

Regarding **claim 45**, Tomiyama et al. discloses an anode (2) for a secondary battery (Fig. 1), comprising:

- an activator layer (see negative electrode material mixture, C5/L41-50) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 1) on at least one side of an anode collector (see current collector, C5/L41-50),
- wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C9/L1-14) which comprises
 - an Si oxide (see SiO, C9/L43-49) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see dopants, C13/L40-46).

Regarding **claim 46**, Tomiyama et al. discloses all claim limitations set forth above and further discloses an anode for a secondary battery:

- wherein the anode activator (see negative electrode material mixture, C5/L41-50) is formed by mechanical processing (C5/L41-50).

Regarding **claim 48**, Tomiyama et al. discloses a non-aqueous electrolytic-solution secondary battery (Fig. 1) comprising:

- an anode (2) comprising:
 - an activator layer (see negative electrode material mixture, C5/L41-50) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 1) on at least one side of an anode collector (see current collector, C5/L41-50),
 - wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C9/L1-14) which comprises
 - an Si oxide (see SiO, C9/L43-49) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see dopants, C13/L40-46).

9. **Claims 37, 41, 42, 44-46 and 48** are rejected under 35 U.S.C. 102(b) as being anticipated by Asanuma et al. (U.S. 6,001,139 A).

Regarding **claim 37**, Asanuma et al. discloses an anode material (see negative electrode material, abstract) for an anode (2) in a non-aqueous electrolyte secondary battery (Fig. 2) having

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at least the anode (2), a cathode (1) and a lithium-ion conducting non-aqueous electrolyte (see nonaqueous electrolyte, abstract), comprising:

- particulate composite (see negative electrode material, C11/L1-13) which comprises
 - an Si oxide (see SiO, C11/L40-46) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see metals, C15/L31-37).

Regarding **claim 41**, Asanuma et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when the Si oxide is expressed in SiO_z , $0.8 \leq z \leq 2$ (see SiO, C11/L40-46).

Regarding **claim 42**, Asanuma et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- further comprising lithium metal (see lithium, C11/L40-46).

Regarding **claim 44**, Asanuma et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- partially or wholly having an amorphous structure (see amorphous, C11/L47-60).

Regarding **claim 45**, Asanuma et al. discloses an anode (2) for a secondary battery (Fig. 2), comprising:

- an activator layer (see material mixture, C8/L54-67) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 2) on at least one side of an anode collector (see current collector, C8/L54-67),
- wherein the anode material (see negative electrode material, abstract) comprises

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- particulate composite (see negative electrode material, C11/L1-13) which comprises
 - an Si oxide (see SiO, C11/L40-46) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see metals, C15/L31-37).

Regarding **claim 46**, Asanuma et al. discloses all claim limitations set forth above and further discloses an anode for a secondary battery:

- wherein the anode activator (material mixture, C8/L54-67) is formed by mechanical processing (C8/L54-67).

Regarding **claim 48**, Asanuma et al. discloses a non-aqueous electrolytic-solution secondary battery (Fig. 2) comprising:

- an anode (2) comprising:
 - an activator layer (see material mixture, C8/L54-67) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 2) on at least one side of an anode collector (see current collector, C8/L54-67),
 - wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C11/L1-13) which comprises
 - an Si oxide (see SiO, C11/L40-46) and

- at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see metals, C15/L31-37).

10. **Claims 37, 41, 42, 44-46 and 48** are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (U.S. 5,707,756 A).

Regarding **claim 37**, Inoue et al. discloses an anode material (see negative electrode material, abstract) for an anode (4) in a non-aqueous electrolyte secondary battery (Fig. 1) having at least the anode (4), a cathode (5) and a lithium-ion conducting non-aqueous electrolyte (see nonaqueous electrolyte, C6/L19-27), comprising:

- particulate composite (see negative electrode material, C21/L1-15) which comprises
 - an Si oxide (see silicon dioxide, C21/L1-15) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see metals, C22/L50-60).

Regarding **claim 41**, Inoue et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when the Si oxide is expressed in SiO_z , $0.8 \leq z \leq 2$ (see silicon dioxide, C21/L1-15).

Regarding **claim 42**, Inoue et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- further comprising lithium metal (see lithium, C21/L26-32).

Regarding **claim 44**, Inoue et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- partially or wholly having an amorphous structure (see amorphous, C21/L33-37).

Regarding **claim 45**, Inoue et al. discloses an anode (4) for a secondary battery (Fig. 1), comprising:

- an activator layer (see negative electrode composition, C24/L21-30) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 1) on at least one side of an anode collector (see current collector, C24/L21-30),
- wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C21/L1-15) which comprises
 - an Si oxide (see silicon dioxide, C21/L1-15) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see metals, C22/L50-60).

Regarding **claim 46**, Inoue et al. discloses all claim limitations set forth above and further discloses an anode for a secondary battery:

- wherein the anode activator (see negative electrode composition, C24/L21-30) is formed by mechanical processing (C24/L21-30).

Regarding **claim 48**, Inoue et al. discloses a non-aqueous electrolytic-solution secondary battery (Fig. 1) comprising:

- an anode (4) comprising:

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- an activator layer (see negative electrode composition, C24/L21-30) which comprises an anode material (see negative electrode material, abstract) for a secondary battery (Fig. 1) on at least one side of an anode collector (see current collector, C24/L21-30),
- wherein the anode material (see negative electrode material, abstract) comprises
 - particulate composite (see negative electrode material, C21/L1-15) which comprises
 - an Si oxide (see silicon dioxide, C21/L1-15) and
 - at least one noble-metal selected from the group consisting of Pd, Pt, Au, Rh, Ir, Ru, Os and Re (see metals, C22/L50-60).

Claim Rejections - 35 USC § 103

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. **Claim 43** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasunami (U.S. 6,371,995 B1).

Regarding **claim 43**, Yasunami discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when a ratio of Si atoms to noble-metal atoms is expressed in a:b,
 $0 < b/a < 0.05$ (see dopants, C10/L52-59).

Although Yasunami does not explicitly disclose a range of $0.01 < b/a$, Yasunami does disclose an overlapping range. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because selection of overlapping portion of ranges has been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ 549.

13. **Claim 47** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasunami (U.S. 6,371,995 B1) as applied to claim 45 above, and further in view of Takada (U.S. 2004/0166409 A1).

Regarding **claim 47**, Yasunami discloses all claim limitations set forth above, but does not explicitly disclose an anode for a secondary battery:

- wherein a center-line average roughness (Ra) of the anode collector is 1/10 or more of a thickness of the anode collector.

Takada et al. discloses an anode (10) for a secondary battery (Fig. 2) wherein a center-line average roughness of the anode collector is 1/10 or more (see Example 2-4) of a thickness of the anode collector (11) to prevent the peeling of the anode active material layer from the current collector ([0022]). Yasunami and Takada et al. are analogous art because they are directed to lithium secondary batteries. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode of Yasunami with the current collector of Takada et al. in order to prevent the peeling of the anode active material layer from the current collector.

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14. **Claim 43** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyama et al. (U.S. 6,053,953 B1).

Regarding **claim 43**, Tomiyama et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when a ratio of Si atoms to noble-metal atoms is expressed in a:b,
 $0 < b/a < 0.05$ (see dopants, C13/L40-46).

Although Tomiyama et al. does not explicitly disclose a range of $0.01 < b/a$, Tomiyama et al. does disclose an overlapping range. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because selection of overlapping portion of ranges has been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ 549.

15. **Claim 47** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyama et al. (U.S. 6,053,953 B1) as applied to claim 45 above, and further in view of Takada (U.S. 2004/0166409 A1).

Regarding **claim 47**, Tomiyama et al. discloses all claim limitations set forth above, but does not explicitly disclose an anode for a secondary battery:

- wherein a center-line average roughness (Ra) of the anode collector is 1/10 or more of a thickness of the anode collector.

Takada et al. discloses an anode (10) for a secondary battery (Fig. 2) wherein a center-line average roughness of the anode collector is 1/10 or more (see Example 2-4) of a thickness of the anode collector (11) to prevent the peeling of the anode active material layer from the current collector ([0022]). Tomiyama et al. and Takada et al. are analogous art because they are directed

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to lithium secondary batteries. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode of Tomiyama et al. with the current collector of Takada et al. in order to prevent the peeling of the anode active material layer from the current collector.

16. **Claim 43** is rejected under 35 U.S.C. 103(a) as being unpatentable over Asanuma et al. (U.S. 6,001,139 A).

Regarding **claim 43**, Asanuma et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when a ratio of Si atoms to noble-metal atoms is expressed in a:b,
 $0 < b/a < 0.05$ (see metals, C15/L31-37).

Although Asanuma et al. does not explicitly disclose a range of $0.01 < b/a$, Asanuma et al. does disclose an overlapping range. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because selection of overlapping portion of ranges has been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ 549.

17. **Claim 47** is rejected under 35 U.S.C. 103(a) as being unpatentable over Asanuma et al. (U.S. 6,001,139 A) as applied to claim 45 above, and further in view of Takada (U.S. 2004/0166409 A1).

Regarding **claim 47**, Asanuma et al. discloses all claim limitations set forth above, but does not explicitly disclose an anode for a secondary battery:

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- wherein a center-line average roughness (Ra) of the anode collector is 1/10 or more of a thickness of the anode collector.

Takada et al. discloses an anode (10) for a secondary battery (Fig. 2) wherein a center-line average roughness of the anode collector is 1/10 or more (see Example 2-4) of a thickness of the anode collector (11) to prevent the peeling of the anode active material layer from the current collector ([0022]). Asanuma et al. and Takada et al. are analogous art because they are directed to lithium secondary batteries. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode of Asanuma et al. with the current collector of Takada et al. in order to prevent the peeling of the anode active material layer from the current collector.

18. **Claim 43** is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (U.S. 5,707,756 A).

Regarding **claim 43**, Asanuma et al. discloses all claim limitations set forth above and further discloses an anode material for a secondary battery:

- wherein when a ratio of Si atoms to noble-metal atoms is expressed in a:b, $0 < b/a < 0.20$ (see metals, C22/L50-60).

Although Inoue et al. does not explicitly disclose a range of $0.01 < b/a$, Asanuma et al. does disclose an overlapping range. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because selection of overlapping portion of ranges has been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ 549.

19. **Claim 47** is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (U.S. 5,707,756 A) as applied to claim 45 above, and further in view of Takada (U.S. 2004/0166409 A1).

Regarding **claim 47**, Inoue et al. discloses all claim limitations set forth above, but does not explicitly disclose an anode for a secondary battery:

- wherein a center-line average roughness (Ra) of the anode collector is 1/10 or more of a thickness of the anode collector.

Takada et al. discloses an anode (10) for a secondary battery (Fig. 2) wherein a center-line average roughness of the anode collector is 1/10 or more (see Example 2-4) of a thickness of the anode collector (11) to prevent the peeling of the anode active material layer from the current collector ([0022]). Inoue et al. and Takada et al. are analogous art because they are directed to lithium secondary batteries. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode of Inoue et al. with the current collector of Takada et al. in order to prevent the peeling of the anode active material layer from the current collector.

Response to Arguments

20. Applicant's arguments with respect to **claims 37 and 41-48** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Cullen, Ph.D. whose telephone number is (571)270-1251. The examiner can normally be reached on Monday thru Thursday 6:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on 571-272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. P. C./

Examiner, Art Unit 1725

/Basia Ridley/

Supervisory Patent Examiner, Art Unit 1725